

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:  
input means for inputting image data; and  
embedding means for embedding first information  
and second information representing whether the first  
information is the latest information in the image data  
as electronic watermark information.
2. The apparatus according to claim 1, wherein the  
first information specifies said apparatus.
3. The apparatus according to claim 1, wherein said  
embedding means further embeds third information and  
fourth information representing whether the third  
information is the latest information.
4. The apparatus according to claim 3, wherein the  
first and third information specifies said apparatus.
5. An image processing method comprising the steps  
of:  
inputting image data; and  
embedding first information and second  
information representing whether the first information  
is the latest information in the image data as  
electronic watermark information.
6. A computer program product comprising a computer  
readable medium having a computer program code, for an  
image processing, comprising the procedure codes of:  
an inputting process procedure code for inputting

image data; and

an embedding process procedure code for embedding first information and second information representing whether the first information is the latest information in the image data as electronic watermark information.

7. An image processing apparatus comprising:

input means for inputting image data;  
extraction means for extracting history information embedded in the input image data;  
processing means for generating history information or updating the extracted history information on the basis of information which is unique to said apparatus and read out from a memory; and  
embedding means for embedding the history information generated or updated by said processing means in the image data,

wherein when the history information is extracted from the image data, said processing means updates the history information to add the information unique to said apparatus to the history information, and when no history information is extracted, said processing means generates history information containing the information unique to said apparatus.

8. The apparatus according to claim 7, wherein said input means comprises a scanner for reading an original image.

9. The apparatus according to claim 7, wherein said input means comprises an interface for receiving image data from an external device or network.

10. The apparatus according to claim 7, wherein information for specifying an apparatus which has processed the image data is time-serially recorded in the history information.

11. The apparatus according to claim 7, wherein the information unique to said apparatus contains at least a model code and machine number of said apparatus.

12. The apparatus according to claim 7, further comprising detection means for extracting the history information embedded in the image data and time-serially outputting information recorded in the extracted history information.

13. An image processing method comprising the steps of:

    inputting image data;  
    extracting history information embedded in the input image data;  
    generating history information or updating the extracted history information on the basis of information which is unique to said apparatus and read out from a memory; and  
    embedding the generated or updated history information in the image data,

wherein the generating and updating step comprises, when the history information is extracted from the image data, updating the history information to add the information unique to said apparatus to the history information, and when no history information is extracted, generating history information containing the information unique to said apparatus.

14. A computer program product comprising a computer readable medium having a computer program code, for an image processing, comprising the procedure codes of:

an inputting process procedure code for inputting image data;

an extracting process procedure code for extracting history information embedded in the input image data;

a generating and updating process procedure code for generating history information or updating the extracted history information on the basis of information which is unique to said apparatus and read out from a memory; and

an embedding process procedure code for embedding the generated or updated history information in the image data,

wherein the generating and updating process comprises, when the history information is extracted from the image data, updating the history information

to add the information unique to said apparatus to the history information, and when no history information is extracted, generating history information containing the information unique to said apparatus.

15. An image processing apparatus comprising:

input means for inputting image data having a plurality of color components; and

embedding means for embedding first information and second information representing that the first information is the latest information in at least one of the plurality of color components as electronic watermark information.

16. The apparatus according to claim 15, wherein said embedding means embeds, as the electronic watermark information, the second information representing that no latest information is contained in a color component different from that in which the first information has been embedded.

17. The apparatus according to claim 15, wherein the first information is information for specifying said apparatus.

18. The apparatus according to claim 15, wherein said embedding means embeds the electronic watermark information in binarizing at least one of the plurality of color components.

19. The apparatus according to claim 15, wherein said

embedding means embeds the electronic watermark information in binarizing at least one of the plurality of color components by switching a dither pattern to be used.

20. An image processing method comprising the steps of:

    inputting image data having a plurality of color components; and

    embedding first information and second information representing that the first information is the latest information in at least one of the plurality of color components as electronic watermark information.

21. A computer program product comprising a computer readable medium having a computer program code, for an image processing, comprising the procedure codes of:

    an inputting process procedure code for inputting image data having a plurality of color components; and

    an embedding process procedure code for embedding first information and second information representing that the first information is the latest information in at least one of the plurality of color components as electronic watermark information.

22. An image processing apparatus comprising:

    input means for inputting image data having a plurality of color components;

    processing means for dithering the plurality of

color components; and:

embedding means for selectively using a plurality of dither patterns for dithering by said processing means to embed first information in a first color component of the plurality of color components and second information in a second color component as electronic watermark information.

23. An image processing method comprising the steps of:

inputting image data having a plurality of color components;

selectively using a plurality of dither patterns in dithering the plurality of color components to embed first information in a first color component of the plurality of color components and second information in a second color component as electronic watermark information.

24. A computer program product comprising a computer readable medium having a computer program code, for an image processing, comprising the procedure codes of:

an inputting process procedure code for inputting image data having a plurality of color components;

a dithering process procedure code for dithering the plurality of color components; and

an embedding process procedure code for selectively using a plurality of dither patterns for

dithering to embed first information in a first color component of the plurality of color components and second information in a second color component as electronic watermark information.